AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) An airborne radar device comprising:

at least two antennas;

wherein the radar device is arranged to send out, via the antennas, radar pulses focused in main lobes;

wherein the antennas are arranged to receive reflected radar pulses, the antennas being separated from each other vertically;

means for transforming the received radar pulses into signals in the form of sequences of bins (Rk), the signals being carried in a first channel (K_1) and a second channel (K_2);

clutter-suppressing means arranged in such a way that a clutter component (e_c) of a certain bin (R_k) in the first channel (K_1) is also found in the second channel (K_2) multiplied by a complex constant ($C(R_k)$), where the complex constant ($C(R_k)$) is a quotient between complex antenna gain of the second channel (K_2) and of the first channel in a direction of ground for the current bin (R_k), the clutter-suppressing means being arranged to estimate a complex constant ($\hat{C}$ (R_k)) which describes how the signals from the receiver antennas are weighted together separately for each bin (R_k) when the resultant output signal (Ψ) is formed, the estimated constant ($\hat{C}$ (R_k)) serving to suppress the clutter component (e_c) in the resultant output signal (Ψ) by subtraction of the second channel (K_2) from the first channel (K_1) multiplied by the estimated constant ($\hat{C}$ (R_k)).

2. (Previously Presented) A radar device according to Claim 1, wherein the radar device comprises means for putting the signal from the first antenna in the first channel (K_1) and means for putting the signal from the second antenna in the second channel (K_2).

3. (Previously Presented) A radar device according to Claim 1, further comprising means for summing the signals from pairs of antennas included in the radar system in the second channel (K_2) and means for forming a difference between the signals from pairs of antennas included in the radar system in the first channel (K_1).

4. (Currently Amended) Radar device according to claim 1, wherein the clutter-suppressing means is arranged for estimating the complex constant ($\hat{C}$ (R_k)) by utilizing the values from range bins in the vicinity of the current range bin ~~($\hat{C}$~~(R_k)[[~~)~~]].

5. (Previously Presented) A radar device according to claim 1, wherein the clutter-suppressing means is arranged for estimating the complex constant ($\hat{C}$ (R_k)) by adapting a polynomial of degree "m" with coefficients "c_m", wherein the polynomial describes variations over a number of bins centered around the current bin.

6. (Previously Presented) A radar device according to Claim 5, wherein the clutter-suppressing means is arranged for determining the coefficients of the polynomial by means of the method of least squares.

7. (Previously Presented) A radar device according to claim 1, wherein in that the clutter-suppressing means is arranged for suppressing clutter without coherence between different pulses sent out.

8. (Previously Presented) A radar device according to claim 1, wherein the antennas are rolled by ± 15° maximum relative to the ground plane.

9. (Previously Presented) A method for suppressing ground clutter comprising:

jointly sending out a focused radar pulse in the form of a main lobe from at least two antennas separated from each other vertically,

receiving reflected radar pulses by the antennas,

converting the received radar pulses into signals in the form of a number of bins (R_k), the signals being carried in a first channel (K_1) and a second channel (K_2),

transmitting a clutter component (e_c) multiplied by a complex constant (C(Rk)) for a certain bin (R_k) in the second channel (K_2), where the complex constant (C(Rk)) is a quotient between the second channel (K_2) and the complex antenna gain of the first channel (K_1) in a direction of the ground for the current bin (R_k),

transmitting the clutter component (e_c) for a certain bin (R_k) in the first channel (K_1),

estimating a complex constant ($\hat{C}$ (Rk)) by weighting together the signals from the antennas separately for each bin (R_k) when forming a resultant output signal (Ψ),

multiplying the estimated constant ($\hat{C}$ (Rk)) by the first channel (K_1),

in the resultant output signal (Ψ), subtracting the second channel (K_2) from the first channel (K_1) multiplied by the estimated constant ($\hat{C}$ (Rk)), which gives rise to the clutter component (e_c) being suppressed in the resultant output signal (Ψ).

10. (Previously Presented) The method according to Claim 9, wherein the method puts the signal from the first antenna in the first channel (K_1) and the signal from the second antenna in the second channel (K_2).

11. (Previously Presented) The method according to Claim 9, further comprising summing of the signals from pairs of antennas included in the radar system in the second channel (K_2) and subtracting the signals from antenna pairs included in the radar system in the first channel (K_1).

12. (Previously Presented) The method according to Claim 9, wherein the step of estimating the estimated constant ($\hat{C}$ (Rk)) comprises the following acts:

selecting a polynomial of degree M with a number of complex constants (c_m),

estimating the complex constants (c_m) by the method of least squares and the values from a number of bins in the main lobe, which polynomial has the following appearance:

$$\hat{C}(R_k) = \sum_{0}^{M} c_m R_k^m$$

13. (Previously Presented) The method according to Claim 9, wherein the method suppresses clutter independently of the coherence between the pulses.

14. (Previously Presented) The method according to Claim 9, further comprising sending out and receiving of pulses from antennas which are rolled by ± 15° maximum relative to the ground plane.

15. (Previously Presented) The method according to Claim 9, further comprising sending out and receiving of pulses from a radar device which is airborne.